1988

Organizational impact of information technologies /

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December 16, 1987

MEMORANDUM

TO: Prof. John C. Wiginton
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FROM: D. A. Thomas
Dean of Graduate Studies

SUBJ: Adele F. Fagan Master's Thesis

In her December 11, 1987 letter to you, Ms. Fagan requests delay of publication of her thesis.

Lehigh's policy on this subject is clearly established by R & P 3.22.1.9 (see attached excerpt from R & P). This permits a reasonable delay of 90 days, with a maximum of one year in exceptional cases.

The student and Air Products should realize that their review process should proceed expeditiously and that submission for publication can be delayed but not prevented.

ORGANIZATIONAL IMPACT OF INFORMATION TECHNOLOGIES

by

Adele F. Fagan

A Thesis

Presented to the Graduate Committee

of Lehigh University

in Candidacy for the Degree of

Master of Science

in

Industrial Engineering

Lehigh University

1987

CERTIFICATE OF APPROVAL

This thesis is accepted and approved in partial fulfillment of the requirements for the degree of Master of Science.

January 11, 1967

(DATE)

John C. Wiginton

PROFESSOR IN CHARGE

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CHAIRMAN OF DEPARTMENT

ACKNOWLEDGEMENTS

The author wishes to extend her sincere appreciation to Mr. T. B. Collins and Mr. G. E. Beck at Air Products and Chemicals for their contributions to this text. Special thanks to Mr. R. L. Rhudy for his continued support and encouragement throughout the development of this thesis. In addition I would like to thank Professor J. C. Wiginton from Lehigh University for his advice and guidance in the role of thesis advisor.

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1.0 Abstract

Organizational changes if not properly managed can be very costly and disruptive to a company. Changes of this type often occur when new information technologies are introduced into an organization. The underlying premise of this thesis proposes that the majority of organizations are poorly prepared to accept and implement new information technologies successfully.

The focus of this thesis is on the specific changes brought about by the introduction of new information technologies. The main contribution of the thesis is the development of a methodology that can be used by MIS organizations to assess the organizational impact associated with a new information technology prior to the introduction of that technology. This methodology should be used in parallel with the traditional life cycle approach to the system development process. The most direct benefit of this approach is the successful introduction of information technology and associated organizational changes to the satisfaction of MIS and its end-users.

2.0 Background

2.1 Techniques in Managing Change

Historically, companies have wrestled with the concept of "managing change" in an organization. Organizations must learn to be proactive, to anticipate change rather than react to it. Anticipating change has allowed organizations to respond more efficiently. One such company that has learned to adapt to change effectively is the Dana Corporation. They have identified in their corporate policy that business is "90% people" and they have recognized this as a primary principle in managing change [13,5-6]. As a result, Dana has experienced high employee satisfaction and increased productivity. Their experience has emphasized the need to be knowledgeable in understanding employee bias, needs, and attitudes toward organizational change.

Attitudes can be based on wrong assumptions [23,294-300]. Many employees associate organizational change with the loss of jobs. They have seen over the past twenty years how the computers speed and precision has surpassed the basic skills of human workers apparently leading to their displacement [28,152-153]. Employees need to realize that although the computer has in fact replaced clerical jobs, it has at the same time created news jobs that have improved the human capability of performing complex tasks in less time and with more accuracy [28,150-154].

It is critical to evaluate organizational change as a process and not an event [19,vii]. Anticipating, planning, and communicating are three key ingredients for the successful management of information technology changes [29,18]. Each step in planning should be carefully reviewed before being implemented. Critical success factors to reduce resistance are: to allow employees to participate in the change process; and to establish clear communication channels. "One of the most consistent findings in research on change, is that participation in the change tends to reduce resistance, build ownership of the change, and thus motivate people to make the change work" [5,9].

Experience has proven that the change process in an organization is very complex. Changing the behavior of people is quite difficult. Some researchers believe that in order to accept the proposed change, the employee must find fault with the existing environment [6,5]. Everyone needs to be motivated to adapt to a new set of procedures. One method used to convince people to change, is to generate discomfort in the current environment, so the people involved see advantages in switching over to the new ways. Pain is a motivator that makes people want to react! However, this approach is manipulative and cannot be recommended.

Orchestrating an organizational change is a challenging task. The transitional state is the stage of the project where there are many unknowns which generate the need to quickly resolve issues and solve problems. This is depicted by the peaks and valleys shown in Figure 1. For comparison purposes, a project in steady state is shown

in Figure 2. The initial impact of an information technology will be to produce these up and down fluctuations. These however, can be controlled by:

1) Informing employees of the purpose of the new information technology;
2) Setting up a procedure to capture employees' feedback regarding the proposed change;
3) Inviting employees to participate in the decision process;
4) Assigning a manager to the transitional phase of the project.

A concise description of the intent of the new information technology is a critical step to the transition process. Not clearly stating the goals and purpose of the proposed change can lead to confusion and, more importantly, resistance among the employees. At the operational levels there is often little knowledge of the overall long-term goals of the organization. It is important to communicate this information to all levels of the organization so that everyone obtains a clear and consistent image as to why the change is meaningful and desirable. This makes the planned change easier to accept if the employees know the reasons for the change.

TRANSITION STATE PROJECT VIEW

Problems/Issues

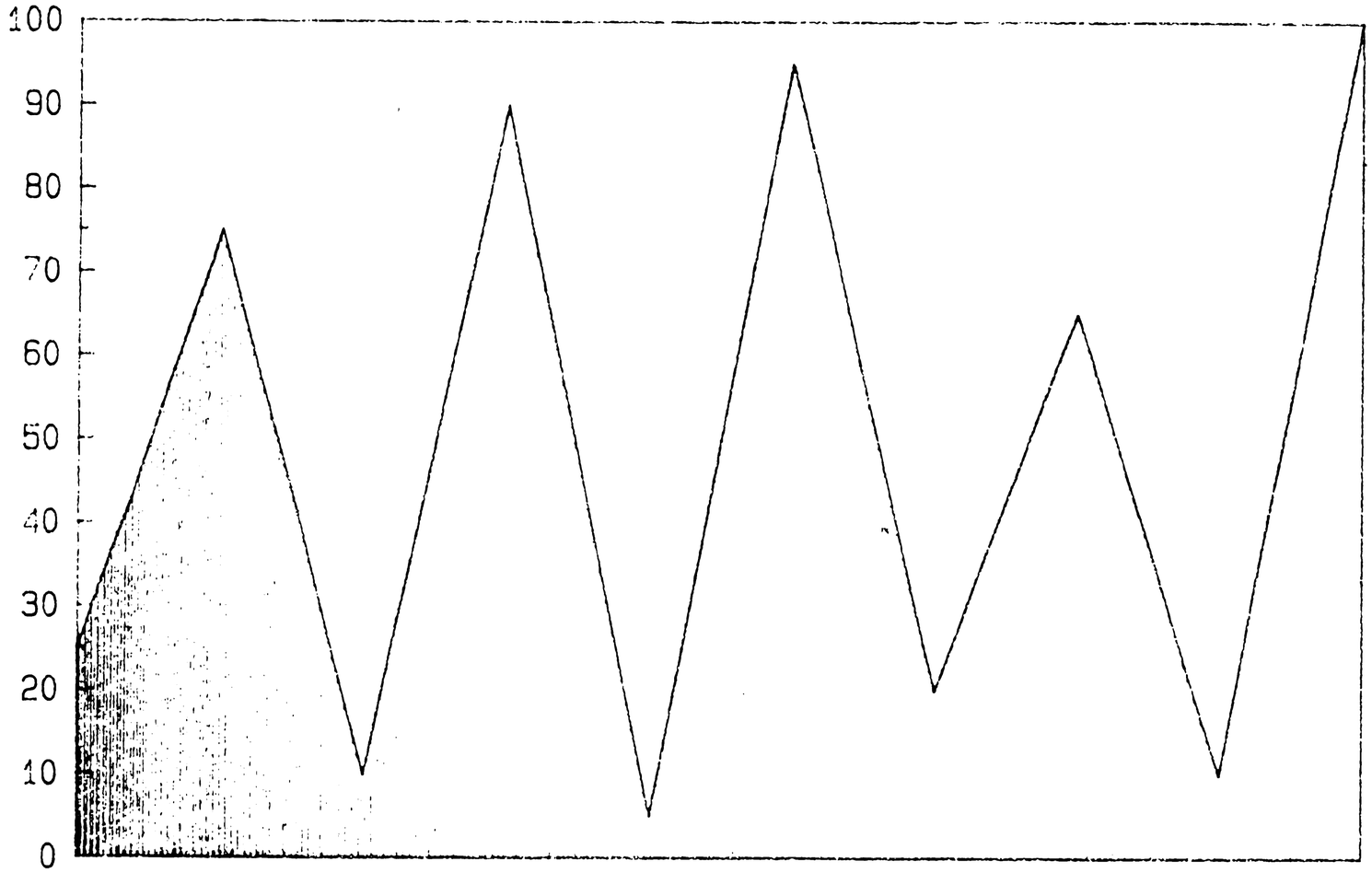

FIGURE 1

Time

STEADY STATE PROJECT VIEW

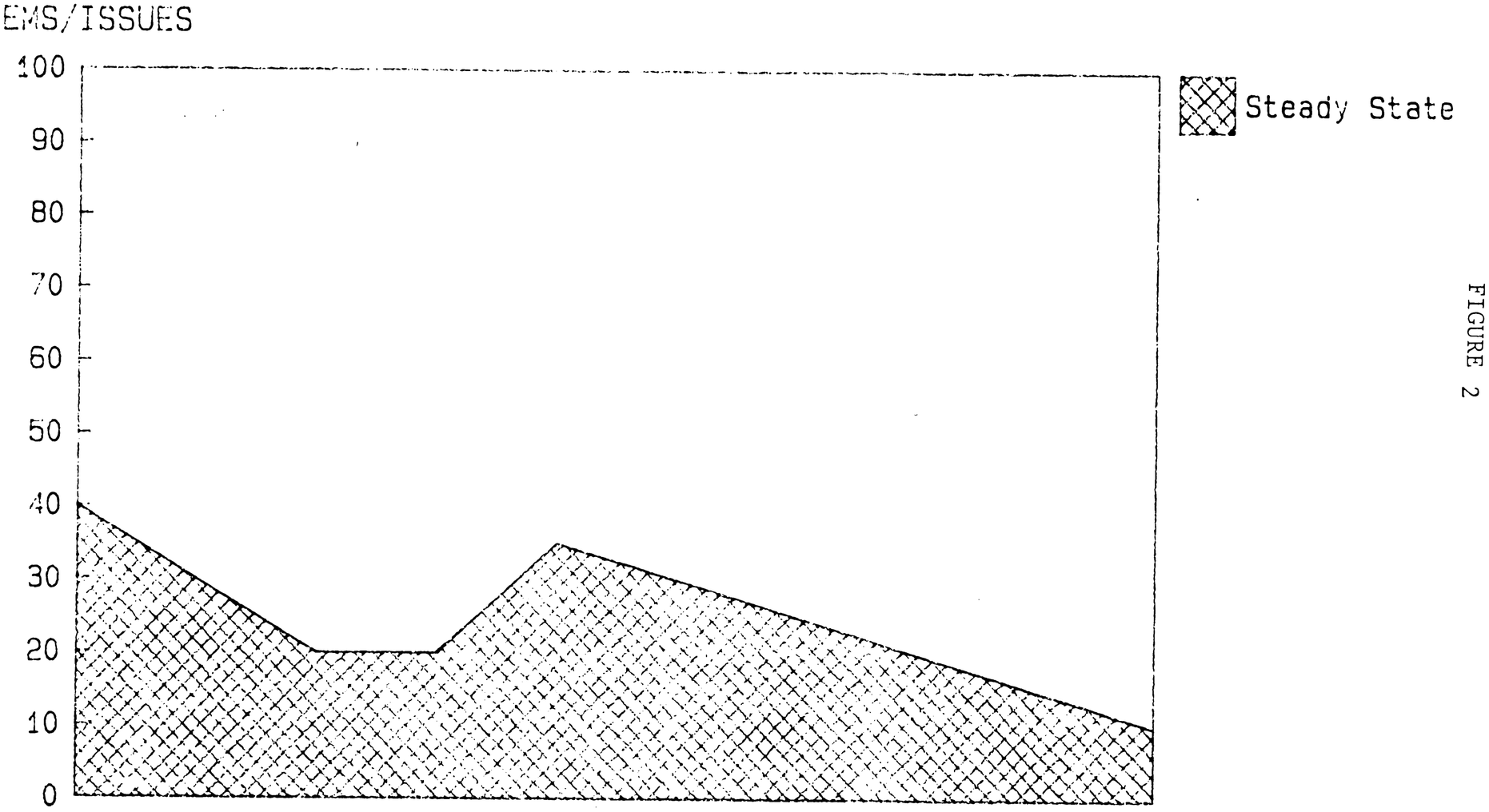

FIGURE 2

2.2 Evolution of Major MIS Changes

MIS organizations on the whole are more knowledgeable today than ten years ago in planning for change [5,1-4]. Study of history has provided guidelines to follow when implementing major organizational changes. Unfortunately, these guidelines may only indicate what NOT to do during an organizational change versus what to do to ensure success [6,2-8].

Over the past ten years, there have been dramatic changes in data processing. The physical size of the hardware has decreased, and the price/performance ratio has fallen dramatically (i.e. the power and storage capacity has increased, while cost has dropped significantly). Software, however, has taken a slightly different pattern of changes. On the whole, software has increased in, functionality, availability, and cost. High software costs can be attributed to the cost of people as resources needed to develop and support software.

The data entry function was once a large segment of the MIS organization. Today, however, the batch environment is being replaced by online database systems. Many applications have distributed the data entry function to the "user community". The technology has advanced from card input to key-to-disk systems, to direct online input. Data entry divisions within the MIS organization are still necessary, but the number of resources needed to support this function has decreased by as much as seventy-five percent.

The most recent major MIS change has been the introduction of personal computers. The end-user community has created a tremendous

demand for personal computers in the work environment. The introduction of personal computers was a win-win situation for both MIS and its end-users. As a result, MIS is able concentrate on more difficult information handling tasks, and the end-users can perform spreadsheet analysis and create small data file applications that they can change at their convenience. End-users have readily accepted this technology since they feel they have more control over the computer information.

MIS departments have always been "agents of change". Since data processing organizations have changed so consistently over the years, it has been necessary for data processing employees to become proficient in learning and accepting the new technology. Because of this, MIS organizations have been more accepting of the introduction of new information technology changes than other areas of the company.

2.3 End-user Expectations

The impact of information technology change affects MIS organizations and the end-user organizations that they serve. Traditionally, MIS and their end-users have been isolated from one another. MIS has played a service-oriented role, meeting with their end-users at the onset of the project to define the requirements and at the completion of the project to deliver the final product. MIS still actively provides a service role. However, the major difference is getting the end-users involved throughout each phase of the project. This helps better define their needs, addresses new business/environmental changes, and results in meeting the end-users' expectations. Recently, there has been more of a team approach to projects than there was in the past. This results in a better definition of roles and responsibilities for the project's success.

There are many computer information technologies we use in our daily lives that we take for granted. For example, throughout the past few years, automated teller machines (ATMs) have increased in popularity. It was not long ago that employees would go to the bank on pay day and wait in lines to cash or deposit their checks. Today, banks provide two services to expedite this process. One is to provide for automatic deposit of company payroll checks, and the other is to provide ATM machines in strategic locations where people can deposit their checks anytime of the day or night. Now expectations have reached a point where bank customers rely on ATM machines to be available at the their

convenience. Here, expectations have changed from receiving service during regular banking hours to expecting twenty-four hour service.

Data communication is another technology that is often taken for granted. Data communication lines are simply telephone lines used to pass data from one point in a network to another. This is another service where end-user expectations are extremely high. The telephone network throughout the United States is an extremely complex system. End-users however, are not concerned about the complexity of the technology as much as the service they receive. An example of this is the telephone. When people use the telephone today, they expect it to be functional one-hundred percent of the time. When the phone lines are busy during holiday periods, end-users become frustrated and forget about how many times they have used the service successfully in the past.

Expectations of the end-users are becoming more demanding. With the ATM example, service was previously only ever available six to seven hours a day when the bank was open. End-users today expect the the teller machine to be in service at any time of the day or night, weekends or holidays. In the telephone example, customers assume their telephones will work every time they need to use them. In summary, end-users are expecting better service with computer technologies. The following section addresses the development of a methodology to assess the organizational impact of information technology and ensure successful organizational change which meets end-users' expectations.

3.0 Methodology

3.1 Development of the Methodology

This thesis describes a methodology to assess the impact of change on an organization. The type of change specifically addressed, is the introduction of information technologies. Information technologies include computer hardware and software, and computer business applications. The impact of information technology on an organization can vary from minor to significant. The emphasis of this methodology is directed at addressing significant changes to an organization, although the methodology can be applicable to minor organizational impacts as well.

The methodology developed in this thesis is intended to be used as a predictive tool in assessing the impact that the introduction of a new technologies will have on an organization. This methodology is designed to be used in parallel with the traditional life cycle approach. It is recommended that the methodology be applied during each phase of the project life cycle, as shown in Figure 3.

This methodology has been developed from the study of several well-known models on change impact analysis:

1) Gibson's model [9,1-24]
2) Drucker's model [7]
3) Nolan & Pollock's model [12,1-10]
4) Nadler & Tushman's model [26,153-167]
5) AT&T's model [5,1-14]

Organizational Change Impact Process
With Traditional Life Cycle Project Plan

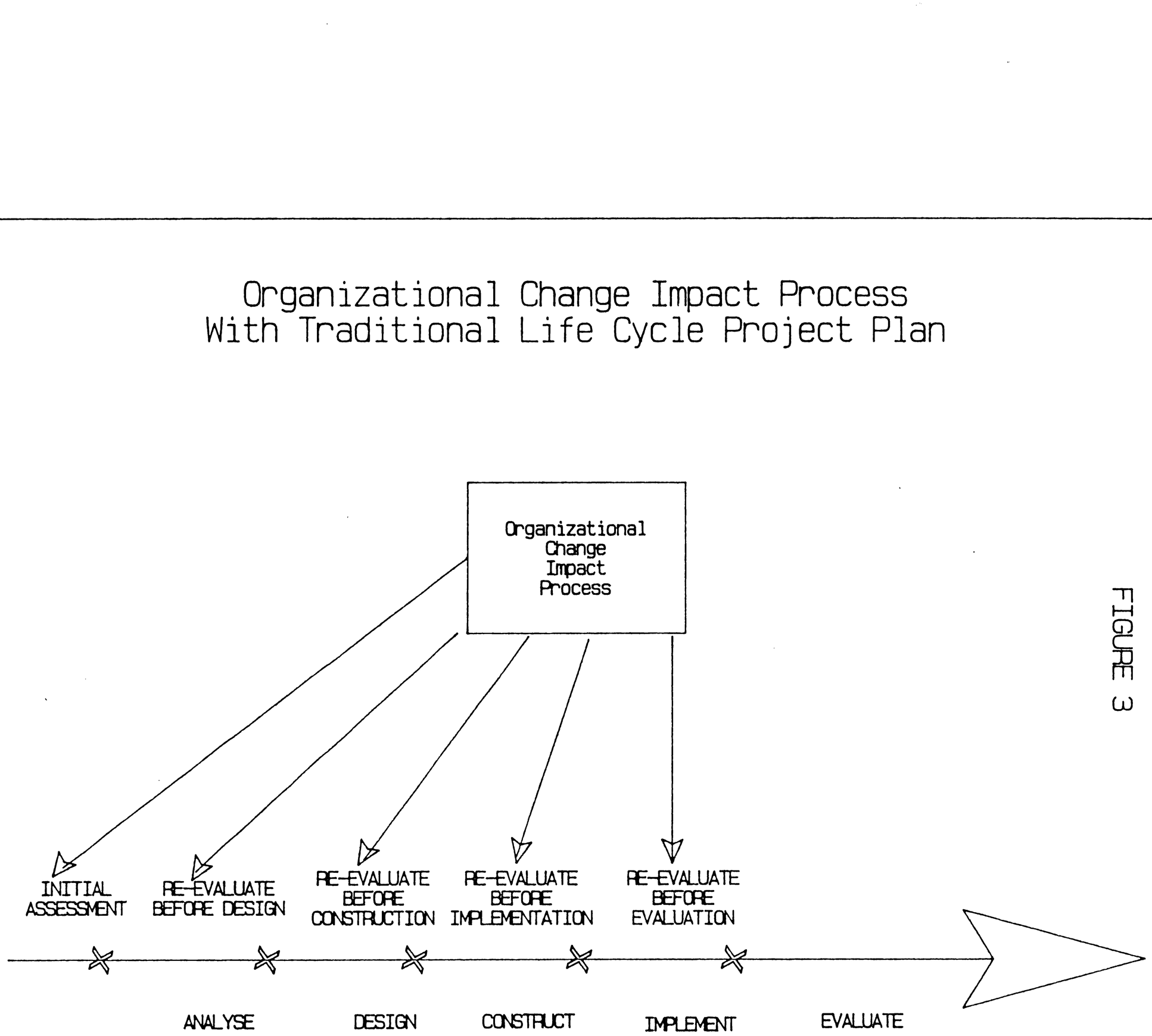

FIGURE 3

- Change Impact Process

Figure 4 graphically displays how the new model was developed using concepts from each of the models. In addition, the theories on analysis of the corporation's culture, organizational readiness and employees' resistance to change are incorporated into the change impact model. Following is a list of the eight assessment areas addressed by the proposed methodology. (Figure 5)

1) Leadership/Management Commitment
2) Current Organizational Climate
3) Historical Organizational Development
4) Communication Channels
5) Reward/Recognition System
6) Resources
7) Education
8) External Factors

Again, each of these areas should be analyzed at the onset of the project and throughout each phase of the project. These assessment areas will provide management insight regarding how receptive an organization will be to the introduction of new technologies.

Development Approach to the Methodology

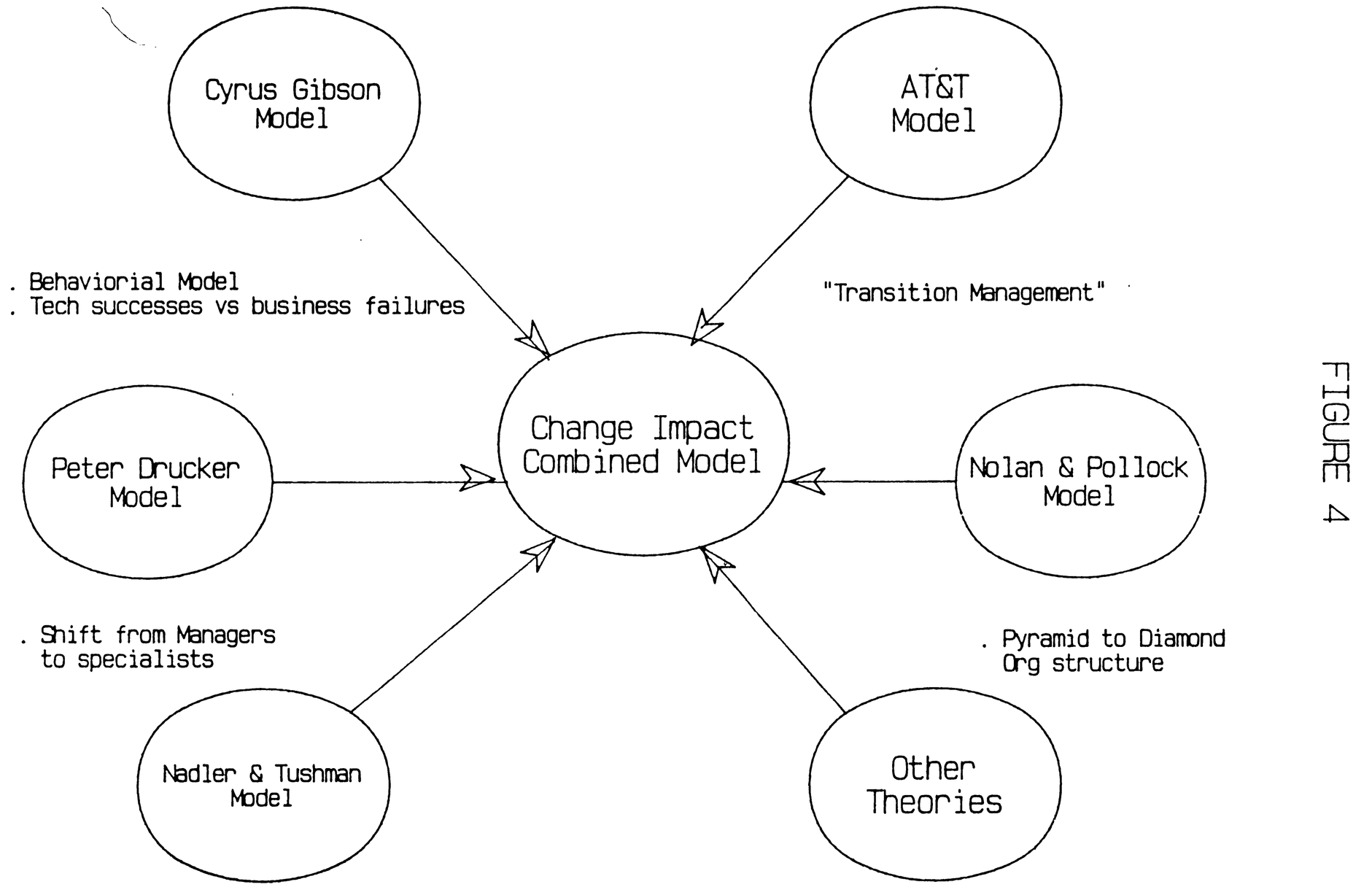

FIGURE 4

Assessment Areas of Methodology

CURRENT ENVIRONMENT

Leadership/Mgt Commitment
(supporters/champions)

Current Organization Climate
(unions, recent staff reductions)

Historical Org Development
(past org successes & failures)

Communication Channels
(flow of information)

Reward/Recognition System
(motivation techniques)

Resources
(manpower expectations)

Education
(training, schedules)

External Factors
(government, environment)

FUTURE ENVIRONMENT

FIGURE 5

3.1.1 Gibson's model

Gibson is known for his studies relating to organizational change principles [9,1-3]. Throughout his studies he has concluded that most organizations are not ready to implement change. Much of his work revealed that the organizational change required changes to the structure of the organization or to current work practices. In the cases where the organization change failed, results show the projects were poorly managed and employees were surprised by the news that an organizational change was about to occur.

Gibson proposed a methodology to be used to assess the effect change has on an organization. One key success factor throughout his research resulted from obtaining senior level commitment and involvement from the end-user areas. Gibson developed a decision tree to describe the selection and design of the implementation strategy for a proposed organizational change. This decision tree was divided into four main areas:

1) Senior management support
2) Pace of the change
3) User receptiveness
4) Strategy recommendation

The strategies suggested are: traditional, participative, authoritative, and bail-out. The traditional strategy is used when two of the following three conditions are true:

1) Senior management is committed
2) Pace of the change is slow
3) Users are receptive to the planned change

Participative strategy is used when senior level management turns the decision-making responsibility over to the user community. Authoritative strategy is recommended when senior line management is supportive of the planned change and the pace of the change is extremely fast. The last strategy is a last chance to defer all proposed changes. This usually is recommended when the commitment from management or the user areas is lacking and/or the pace of the change is fast [9,17-20]. This type environment most likely results in a lose-lose situation that is best to avoid. Figure 6 portrays Gibson's decision tree explaining the strategy selection process when a change is introduced within an organization.

Cyrus Gibson's Decision Tree

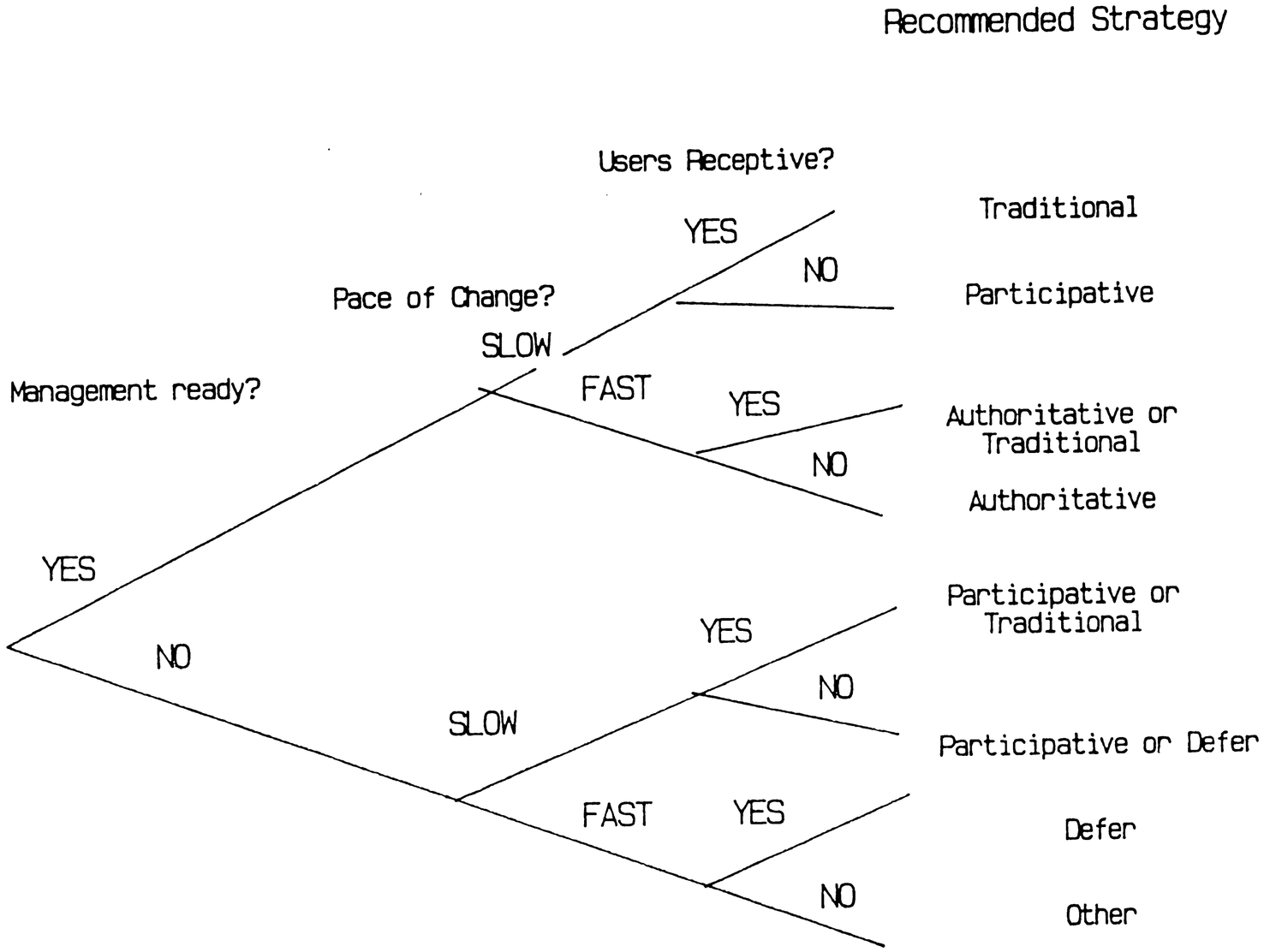

FIGURE 6

3.1.2 Drucker's Model

Peter Drucker is a well respected consultant and economist who studies the concept of change and what affect it has on businesses worldwide. Drucker has done a great deal of research comparing the United States organizations with the Japanese. Overall he has determined that there are many fundamental differences in the respective societies. Two of his key findings are related to knowledge and information. Drucker believes that knowledge in a company is the most productive resource, and information is a tightly integrated principle of the organization [7].

Drucker has also learned from studying organizational trends. Seventy to eighty years ago it was acceptable and common place to make a living without an education. This, however, is not true in the twentieth century since the nature of work has changed, requiring greater skills. Society has migrated over the years from mostly manual labor to white collar firms.

The future business organization from Drucker's viewpoint will be dramatically different compared to today. Managers will evolve to become technical or application specialists. Drucker compares this change to an orchestra, commenting that managers will become specialists like the basoonists in the orchestra. [7].

3.1.3 Nolan & Pollock's Model

Richard L. Nolan and Alex J. Pollock believe the key component of the organization is its structure. Organizations that are effective, contain structures that build on past successes while avoiding those that fail, and direct the right information into the decision-making process within the system [20,1-3].

Organizational structures today are being questioned and reexamined. In this reexamination process, Nolan and Pollock are witnessing that most organizations today are evolving from a hierarchial, pyramid-shaped structure (Figure 7) to one that is diamond-shaped (Figure 8). The traditional pyramid organizational structure is split between strategic, tactical, and operational management with a large percentage of the organization falling into the day-to-day clerical duties or operational segment of the hierarchical structure. The new diamond-shaped structure places emphasis on the bulk of the employees becoming knowledge workers or part of the tactical management level. The operational level is shrinking in size because of the decreasing demand for clerical help. The reduction of clerical help is attributed to the investment in computers throughout the past twenty years. [20,4].

Nolan and Pollock also believe the diamond-shaped organizational structure is due to the fact that decision-making is occuring at lower management levels. This is made possible by the fact that information

is more accessible, computing is less expensive, and there are more sophisticated computer tools.

Nolan & Pollock's Pyramid-Shaped Organizational Structure

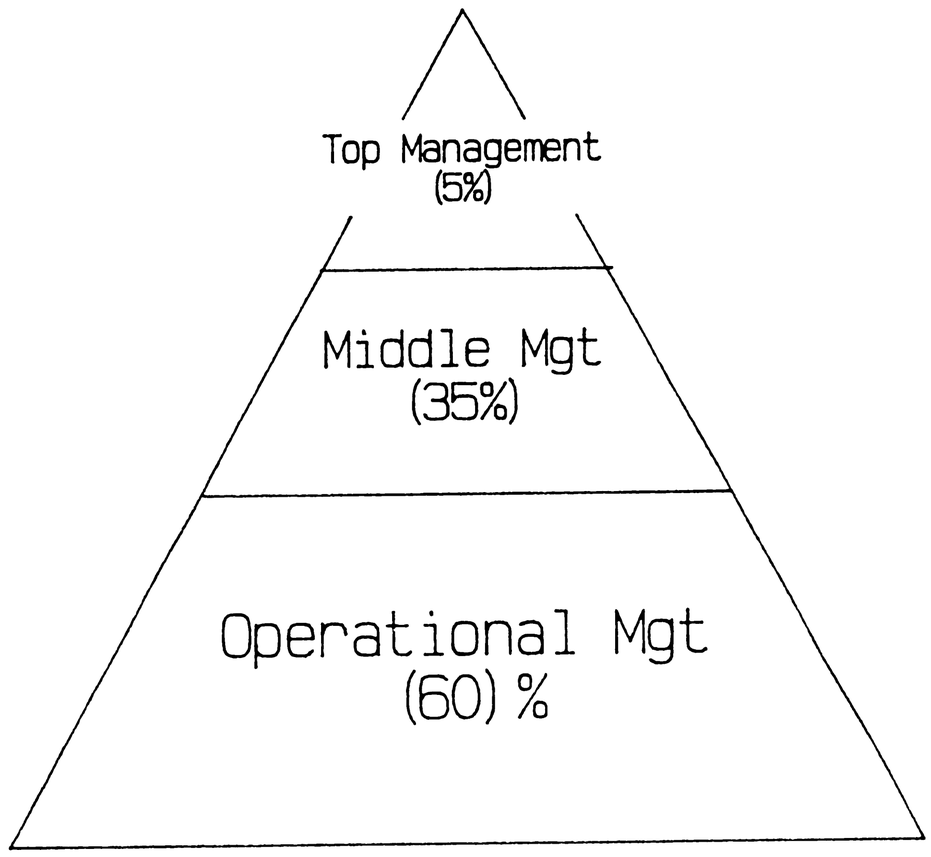

FIGURE 7

Nolan & Pollock's Diamond-Shaped Organizational Structure

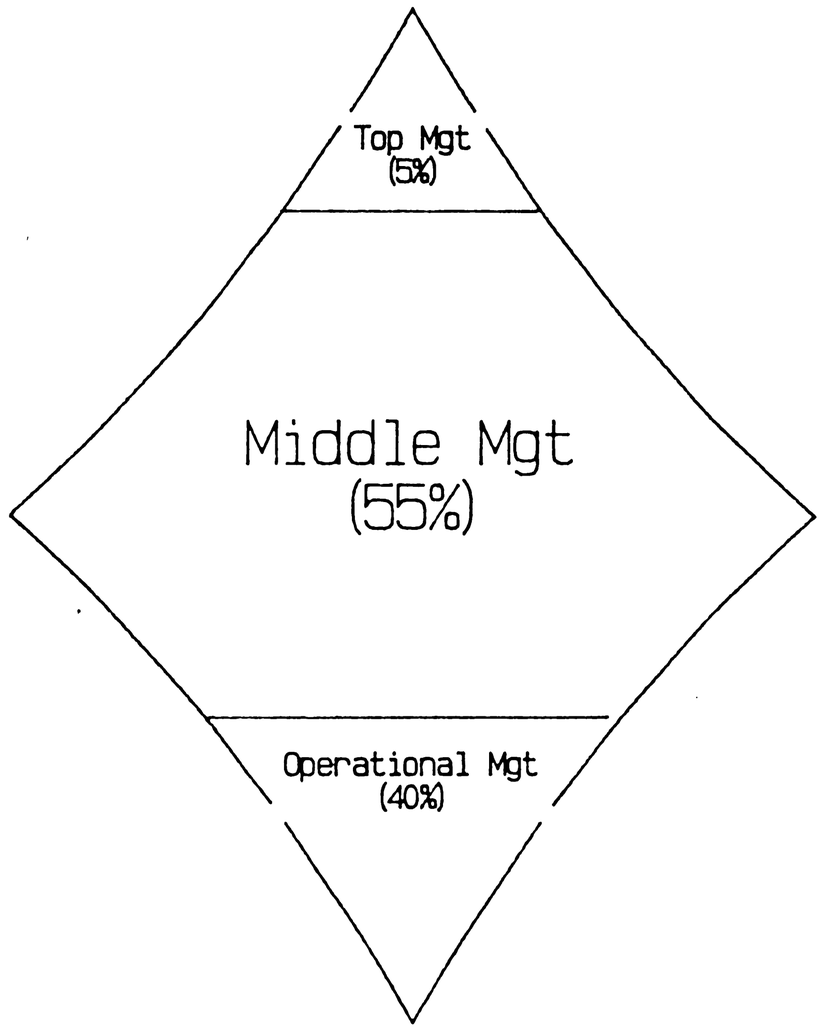

FIGURE 8

3.1.4 Nadler & Tushman's Model

To meet the demands of managing change in an organization, David Nadler and Michael Tushman developed a model which addresses organizational performance. (Figure 9). This model is referred to as an OPM, or "organization performance model" [26,153-167]. It combines several elements into one design. Nadler and Tushman analyze the current organization status with the proposed status and devise strategies on how to get from the existing environment to the future environment. Moving from one state to another is known as the "transformation process". Imbedded in that process is the examination of specific tasks, individuals in the organization, and informal and formal organizational structures.

Two key ingredients of this model are the feedback process and the interrelationship of each of the components of the system. Individuals, informal groups, and formal groups need to provide feedback regarding the planned change. It is also valuable to refer to historical records to determine how the individuals and groups perceive past organizational changes. Each component of this model must be analyzed to see how the ultimate goal will be met when the change occurs in the environment. The organization is most effective when congruency exists with each of the components [5,3]. When the needs, goals, and structure of one component are consistent with the needs, goals, and structure of the other components, the

organization is effectively managed [26,162]. For example, when an individual's skills and knowledge is matched with the organization task the employee is said to be effectively managed. This model addresses the values of individuals and groups and recognizes the needs of the formal system such as structure, policies, procedures, and strategies.

This model attempts to provide a tool for managers to resolve organizational issues related to the changes. It not only identifies organizational problems but points to the root causes of these issues. Strategy is the driving component of the model. The model supports reaching the organizational goals by employing resources effectively. The second level is a group level where managers structure plans that meet their goals and are consistent in meeting the corporate goals. The third level places emphasis on the individual employee and this is where management is expecting feedback on the change process [5,2-5].

Nadler and Tushman's
Congruence Model

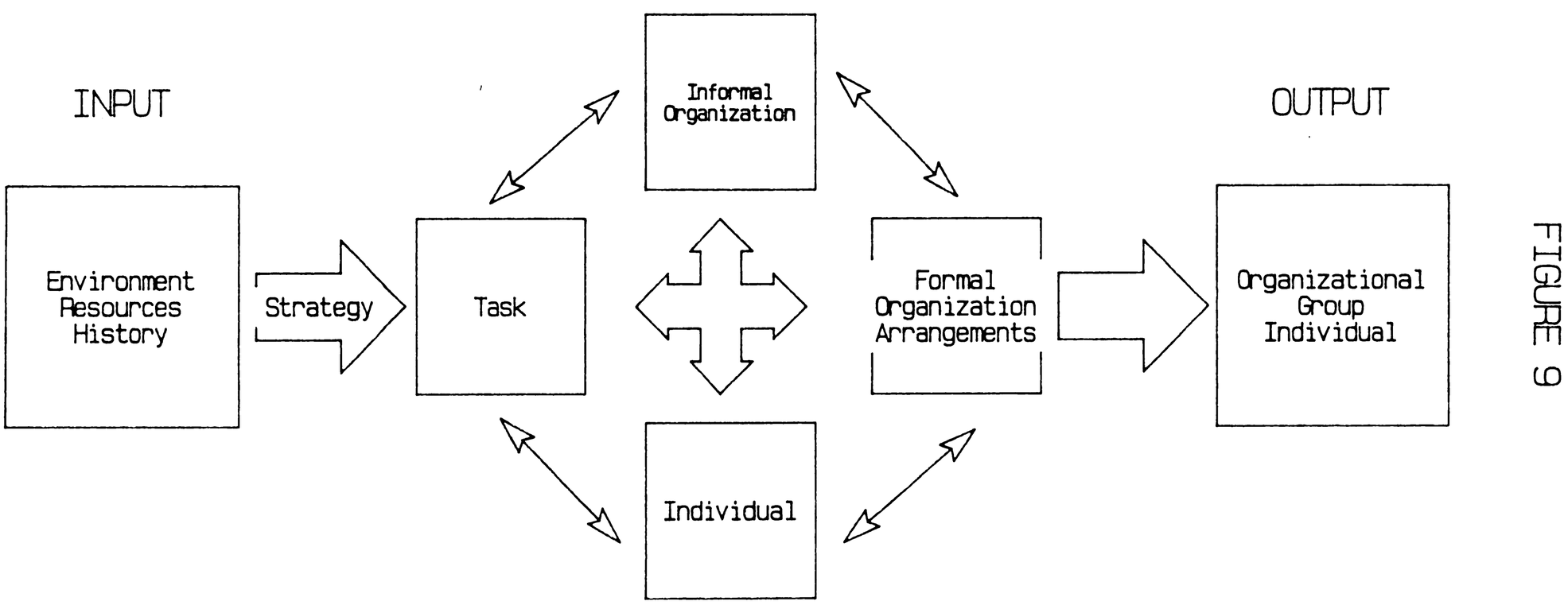

FIGURE 6

3.1.5 AT&T's Model

AT&T has developed techniques for managing change in an organization. Nadler and Tushman's model, which forms the basis for implementing organizational change in AT&T is a conceptual view of an effective organization within a business environment [5,7-9]. AT&T takes the Nadler & Tushman model one step further, emphasizing the idea of "transitional management". This model places emphasis on motivating the employees, managing the transitional stage, and creating a structure that will support the change.

In creating a support structure, it is important to identify which groups or individuals will champion the proposed change. When motivating employees, it is critical to enroll them in the process and set up a reward mechanism for those that support the planned change. Lastly, all employees should understand what the future change will do for them.

It is important to recognize the state between the current and future environments. This transitional state needs to be managed by experienced people since it tends to be a time of uncertainty. This state must be managed quite differently compared to the current or future steady states. A transitional manager should be assigned to manage this period between the two states, and it is recommended that the manager of the transitional state be different from the manager of the current state. The skills needed to manage a steady state

environment differ drastically from a changing environment. Communication is an essential success factor for the transitional state. Information must be communicated clearly and concisely to all employees affected by the planned change. Quick decisions are needed in the transitional phase since it is a "crisis environment". Lastly, a transitional manager must realize the need to obtain upper management commitment to the planned change.

3.1.6 Organization's Culture

An organization's culture is a set of unwritten rules that determine the behavior of the company employees [4,15]. Culture can be a combination of values, attitudes, and regional factors. To make any changes to a corporation's culture it is essential to understand its current cultural environment.

Once the culture has been assessed, the next step is to know how to manage the employees in this type of setting. Communication is an essential ingredient regardless of the type of culture, formal or informal. A manager needs to plan what he/she wants as short-term and long-term goals for the organization. This information must be conveyed to the manager's subordinates. This message should clearly state what he/she expects from the employees before the manager can expect results. In the data processing environment, one of the first lessons learned is to never assume what people are thinking or expecting. Once the expectations are defined and the employee's goals are outlined, the organization's culture begins to form.

A manager should give some thought to the formal and informal reward system for the organization. An effective manager will take a genuine interest in their employees' careers and goals. This opens the communication channel between the manager and his/her subordinates and creates a better working relationship.

Changing the culture of a business can be a challenging task. A manager must learn to influence the behavior of their employees. The

manager must first realize that changing culture is threatening to most involved. It is then necessary to convince the employees that their future environment will be better than their current one. It is also important to realize that tactics used in one culture may not be effective when applied in a different cultural setting [23,301-307].

3.1.7 Organization Readiness

The simplest or most complex organizational change will be doomed to fail unless the organization is prepared for the proposed change. Pfeiffer and Jones support the theory that commitment to organization change, especially from top management, leads to successful changes in the organization [22,219-224].

Some of the key indicators to evaluate whether an organization is prepared for planned changes are:

1) Size of the organization
2) Growth rate
3) Crisis
4) Macroeconomics
5) Organizational history
6) Culture
7) Time commitment
8) Money
9) Access to people
10) Labor contract limitations
11) Structural flexibility
12) Interpersonal skills
13) Management development
14) Flexibility at the top
15) Internal change agents

The first six criteria in the list relate to general considerations. Items seven through eleven relate to resources, and the remaining factors categorize employee power within the organization. Organizational readiness relies on a large number of people becoming involved with the proposed change. It also assumes problems will be solved openly. Organizations whose size is less than five hundred people, growth rate is moderately rapid, and the mode is somewhat unstable are more likely to be suited for organization change [22,221]. Organizations that grow too rapidly may not have the energy to cope with change. Organizations that have a slower growth rate are looking for more short-term than long-term solutions. Crisis mode necessitates change and the organizational readiness efforts facilitate this change.

The economic situation should be considered since the environment may have a significant impact on organizations. The history of an organization's successes and failures can give clues to whether future information technology changes should be implemented. Organizational culture can inhibit change even if all other factors appear supportive.

The resource indicators are basically self-explanatory. Managers need to determine the time commitment to the proposed change. They also need to evaluate if the organization can afford the cost related to the proposed change. It is imperative that all people in the organization are accessible to participate in the planned change. Management must be conscious of labor contracts and attitudes to ensure these employees will accept the proposed change. Many times it is

necessary to analyze the flexibility of the organization to change reporting procedures and communication flow.

The last four indicators require employees to possess good interpersonal skills. The key executives at the top not only need to be knowledgeable of the planned change but more importantly need to be supportive of the organizational change. Lastly, and perhaps most importantly, change agents are the necessary champions required to implement the planned change successfully.

3.1.8 Resistance to Change

Managers underestimate the variety of ways employees can react to change [16,109]. Existing procedures are difficult to change, especially those that are perceived as being successful [6,3]. Resistance to organizational change commonly stems from fear of the unknown. To combat resistance there are two elements that need to be analyzed:

1) Employee perceptions
2) Employee/management commitment

Negative employee perceptions can be detrimental to the success of the planned change. It is advisable to communicate the purposes and goals of the proposed change early in the planning stage. In this way rumors are avoided, and employees can begin to understand the short-term and long-term goals of the company and where they fit into the corporate structure.

Unless senior management is committed to the process, acceptance of information technologies is unlikely. The truest form of management commitment is not only hands on use, but a promise to rely on the information generated from the new information technology. Leadership must be highly visible to convince and encourage the employees to become active participants. Depending on the change, the senior management role may need to be more direct in stating their expectations. A leader who actively participates in and supports the

process becomes a positive role model. Likewise, the leader who preaches the value of the change, but is not involved in the change impact process, sends a strong, perhaps irrevocable message to the organization.

Educating employees before the change occurs tends to reduce employee resistance. Considerable research has been done to support the fact that participation leads to commitment [16,109]. Another often forgotten technique is for a manager to be supportive and listen to employee concerns. With unions, the bargaining approach is often effective. Two techniques that have proven to be risky, and hence inadvisable in most situations, are manipulation and coercion [16,110-111].

It is important to use many of these techniques when introducing a proposed change to the organization. What works for one group may be ineffective for another group. Although managers must be cautious introducing a change to the organization, they must also realize that they can influence the employees to accept the planned change by using these techniques [16,111-112].

3.2 Development of the Questionnaire

A questionnaire was developed to help measure which areas need further management attention so the organization can be better prepared for the planned change (Appendix A). The questionnaire was designed to:

1) Highlight areas of concern with the proposed change;
2) Give an accurate assessment of the current organizational environment;
3) Provide guidelines and direction for each area based on the answers from the questionnaire;
4) Be simple to complete since the same questions will be repeated throughout each phase of the project.

The questionnaire consists of a series of statements divided into eight categories (Figure 5 is displayed on the next page for convenience). The person completing the questionnaire is asked to select one of the following responses for each statement:

- AGREE
- DISAGREE
- UNKNOWN
- NOT APPLICABLE

Assessment Areas of Methodology

CURRENT ENVIRONMENT

Leadership/Mgt Commitment
(supporters/champions)

Current Organization Climate
(unions, recent staff reductions)

Historical Org Development
(past org successes & failures)

Communication Channels
(flow of information)

Reward/Recognition System
(motivation techniques)

Resources
(manpower expectations)

Education
(training, schedules)

External Factors
(government, environment)

FUTURE ENVIRONMENT

FIGURE 5

The questionnaire should be reviewed with each member of the project team to clarify any points before completing the form. This can be done through a brief meeting or a cover sheet clarifying these points. It is imperative that the focus of the questions pertain to the current phase of the project and not to any future or past phases.

Once this has taken place, each member should individually answer each question and forward their responses to a facilitator. The facilitator will play the role of a neutral party who will analyze the answers and present the results and recommendations of the survey at the next meeting.

Each statement is phrased in such a way that a response of "AGREE" indicates a favorable condition, whereas a response of "DISAGREE" indicates a potential problem. A response of "UNKNOWN" usually shows a lack of communication among the project team members. However, this response may be acceptable if it is in the earlier phases of the project. A "NOT APPLICABLE" answer is appropriate, provided the statement is not relevant to the project. All responses of DISAGREE, UNKNOWN, and NOT APPLICABLE need to be reviewed by the project team.

Following is an example of the process the facilitator would use in analyzing the results of each statement on each questionnaire completed by the project team:

Sample question:

	AGREE	DISAGREE	UNKNOWN	NOT APPLI-CABLE
COMMUNICATION CHANNELS				
1) The "purpose" of the organizational change has been communicated to all levels of employees affected by the change.	A	D	U	NA

Agree response:

The facilitator would accept this as a positive response and would not need to process this question any further.

Disagree response:

For every disagree response, the facilitator would reference the corresponding assessment guideline as shown below (and documented in Appendix B) and review these suggestions with the project team:

Assessment Guideline:

CONDITION: All levels of employees have not been informed as to the purpose of the proposed change.

IMPLICATIONS: All levels of employees should know the goals and missions of the organization. This will diffuse rumors and begin the education process associated with the proposed change.

GENERAL RECOMMENDATIONS:

1) Issue written document explaining how the planned change fits into the short-term and long-term goals of the company.

Unknown response:

This may be a legitimate response, depending on the project phase. For example, in the early study phase, it may not be feasible for management to inform all levels of employees on the proposed change. Therefore, the facilitator must document this as a warning and add it as an action item to be completed during some future phase.

Not Applicable response:

In this instance, this response is not acceptable since the purpose of the proposed change must always be conveyed to the people affected. However, the facilitator's role is to document this response and have the project team decide if this answer should be acceptable for any reason.

INCORRECT

PAGINATION

project team was asked to complete the questionnaire twice, first as if they were in the early analysis stage of the project and secondly, as if they just completed the implementation phase. The results from the plant maintenance questionnaire for the analysis phase are:

"Analysis Phase Results"

LEADERSHIP/MANAGEMENT COMMITMENT

Senior end-user management was fully committed to the change and the scope and objectives have been clearly defined. The results indicated that the leadership from MIS and the end-user was strong and supportive. However, some members of the project team felt the end-user management did not understand how the proposed change was perceived by the people affected.

CURRENT ORGANIZATIONAL CLIMATE

The formal structure was an effective means of communication. The informal group was diagnosed as an ineffective way to communicate. Decision-making included all management levels except the supervisory level. Communication between middle management and the supervisory level was very infrequent.

HISTORICAL ORGANIZATION DEVELOPMENT

Both MIS and the end-user organizations had a successful organi-

zational change in the past that they could use as tool to promote the proposed change.

COMMUNICATION CHANNELS

This area was poorly rated in the questionnaire. The "purpose" of the organization change had not been communicated to all levels and there was little understanding as to how the proposed change would affect the employees directly or indirectly.

REWARD/RECOGNITION

Individual performance recognition was rated very high in the questionnaire. However, team recognition was lacking along with an incentive program at the supervisory level.

RESOURCES

Appropriate resources were available in the time frame required.

EDUCATION

Education and training were scheduled to meet the needs of the plant maintenance project.

EXTERNAL FACTORS

Results indicated that any external resources needed to implement the proposed change would not be available.

The methodology was used to highlight the main issues in this project phase. In summary, the main areas of concern with the plant maintenance project during the analysis phase were:

1) Communication channels between senior management and the supervisors;
2) Recognition of team performance;
3) Lack of understanding of how the proposed change is perceived by the people affected;
4) Availability of external resources.

When the questionnaire was analyzed for the implementation phase, many of the same areas of concern remained during this phase. If available, this methodology could have assisted to eliminate these problems early in the project life cycle.

It is not unlikely that the same issues could be carried through from one phase to the next. However, this methodology forces these issues to be documented and reviewed by the project team. Therefore, the methodology acts as a trigger mechanism to alert the team of these problems each time they occur. Hopefully, action will be taken to resolve these issues if not at the onset of the problem, at least when the problem arises again.

Following is a summary of the results from the Implementation Phase phase of the plant maintenance system:

"Implementation Phase Results"

LEADERSHIP/MANAGEMENT COMMITMENT

(Same as results in the analysis phase)

Senior end-user management was fully committed to the change and the scope and objectives have been clearly defined. The results indicated that the leadership from MIS and the end-user was strong and supportive. However, some members of the project team felt the end-user management did not understand how the proposed change was perceived by the people affected.

CURRENT ORGANIZATIONAL CLIMATE

The results were the same at this phase as in the analysis phase, except there were additional responses that indicated a transitional plan was not developed in the end-user area.

HISTORICAL ORGANIZATION DEVELOPMENT

(Same as results in the analysis phase)

Both MIS and the end-user organizations had a successful organizational change in the past that they could use as tool to promote the proposed change.

COMMUNICATION CHANNELS

Results showed a definite problem area in informing employees at

the supervisory level as to how the proposed change will affect them. Communication between management and the operational level was rare. In addition, no communication plan was developed to ensure information flows consistently through the transitional phase.

REWARD/RECOGNITION

These results changed from the prior phase analysis. Originally, individual performance recognition was rated favorable. However, during this phase the responses indicated that both team and individual recognition were unfavorable. Incentive programs were also lacking at the supervisory level.

RESOURCES

After the implementation phase, appropriate resources were not available and no transitional manager had been assigned to manage this effort.

EDUCATION

The results showed that management does not view education and training as a critical success factor, and therefore, training schedules were not developed.

EXTERNAL FACTORS

Results indicated that external resources were not available to implement the proposed change in a timely manner.

In summary, the main areas of concern during the implementation phase were:

1) Lack of understanding of how the proposed change is perceived by the people affected;
2) Undeveloped transition plan in the end-user areas;
3) Lack of communication between management and the supervisors;
4) Recognition of team and individual performance;
5) Lack of resources available to effectively manage the proposed change;
6) Education was not viewed as a critical success factor.

Laptop Computer Pilot:

The laptop computer pilot is a project that provides customer order status, shipment status, pricing information, and territorial management capabilities to the salesforce. The main purpose of the pilot is to test to see if the laptop is a productive tool to use to provide this sales and customer information. The pilot is a three- to six-month project starting in November 1987.

The results of the questionnaire during the assessment phase are:

LEADERSHIP/MANAGEMENT COMMITMENT

The project team has identified the "champions" of the project team as well as the opponents. The survey indicated that it is

unknown whether the customer management is committed to the proposed change at all managerial levels. The survey also received responses of uncertainty whether both MIS and the customer agree upon the scope and objectives of the proposed change.

CURRENT ORGANIZATIONAL CLIMATE

The results showed that management practices open communication and views it as a key success factor for the organization. The informal group and formal organizational structures are viewed as effective communication means.

HISTORICAL ORGANIZATION DEVELOPMENT

The customer organization has implemented successful changes in the past. However, since some prior reorganization resulted in terminations, it is suggested that clear open communication be maintained to clarify any points regarding the planned change.

COMMUNICATION CHANNELS

The purpose of the laptop computer pilot has been communicated to all participants. All salespersons affected were notified of the project several months prior to the start of the pilot. However, results showed communication between management and salespersons occurs less than bi-weekly.

REWARD/RECOGNITION

The results indicated the organization recognizes and rewards both individual and team performance. There were conflicting answers to whether the employee perceived the performance recognition process as an adequate measurement of their performance. Answers ranged from Agree, to Disagree, to Unknown. An incentive program has not been developed at this time but plans are underway to address this issue.

RESOURCES

Adequate resources have been allocated to meet the salesforce training needs. However, it is unknown at this time whether appropriate resources have been made available to implement the proposed change at the technical, managerial, and clerical levels.

EDUCATION

An education plan has been established to ensure the salespersons have the appropriate training. Education is viewed as a critical success factor to implement the salesforce laptop computer project.

EXTERNAL FACTORS

External sources, such as the government, are unlikely to have an impact on the laptop computer project. It is unknown whether

external resource will be required to implement the proposed change. Risk factors are identified and documented.

The methodology was valuable in determining the issues of the laptop pilot. For the pilot, responses of "unknown" were expected since the project is in an early phase. By using the methodology, these responses of "UNKNOWN" should change to either "AGREE" or "DISAGREE" as the project progresses to the following stages. The questionnaire will continue to be used throughout each phase of the laptop pilot project.

In summary, the methodology determined the main areas of concern with the laptop pilot project are:

1) Uncertainty about the commitment toward the laptop pilot at all management levels;
2) Infrequent communication between management and the salesforce;
3) Uncertainty about resources levels and the recognition process.

5.0 Conclusions

5.1 Areas for Further Research

This thesis has concentrated primarily on introducing information technology into an organization for business applications. Further research could be done testing the methodology in the scientific, research, and engineering areas within the MIS environment. Although the methodology was not specifically designed for these applications, the author anticipates the methodology can be used to manage the introduction of these technologies with only minor revisions to the questionnaire and assessment guidelines.

Beyond this thesis, the author will be working to formulate this methodology and assessment recommendations into an expert system. Each assessment guideline was designed for display on a computer screen. It was specifically designed this way to make it easier to transfer this information directly into an expert system. Automating this methodology will reduce the effort and time spent manually completing the questionnaires, and the time spent waiting for the analysis of the results. It is anticipated that the expert system will encourage more participation in this process.

5.2 Summary

The new methodology developed to assess the impact to introducing information technology to an organization has been effective in a pilot environment. Two projects have been tested against this methodology, a Plant Maintenance Project and a Laptop computer pilot project. With each test, the questionnaire and the assessment guidelines were refined. These will continue to evolve and improve as the methodology becomes a tool to assess the introduction of information technologies.

This methodology provides a clear statement of how the entire project team anticipates the project's success. It is the intention of the author to highlight problem areas with the use of this methodology to strive for better managed, quality projects.

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7.0 Appendix

Appendix A
Assessment Questionnaire

	AGREE	DISAGREE	UNKNOWN	NOT APPLI-CABLE
LEADERSHIP/MANAGEMENT COMMITMENT				
1) End-user management is committed to proposed change:				
Executive level	A	D	U	NA
Middle mgt level	A	D	U	NA
Supervisory level	A	D	U	NA
2) Senior end-user/MIS management agree upon the scope/objectives of the proposed change.	A	D	U	NA
3) One or more end-user "CHAMPIONS" have been identified.	A	D	U	NA
4) Opponents of the proposed change have been identified.	A	D	U	NA
5) The pace of implementation has been determined and agreed upon by senior end-user/MIS management.	A	D	U	NA
6) Management understands who will be affected by the planned change and how they will be affected:				
Executive level	A	D	U	NA
Middle mgt level	A	D	U	NA
Supervisory level	A	D	U	NA
CURRENT ORGANIZATIONAL CLIMATE				
1) Management practices open communication and views it as a key success factor to the organization:				
Executive level	A	D	U	NA
Middle mgt level	A	D	U	NA
Supervisory level	A	D	U	NA
2) The informal group provides an effective means of communication:				
MIS	A	D	U	NA
End-user	A	D	U	NA

3) The formal organization structure provides an effective means of communication:				
MIS	A	D	U	NA
End-user	A	D	U	NA
4) Senior management encourages participative decision-making regarding the planned change with:				
Middle level mgt	A	D	U	NA
Supervisory level mgt	A	D	U	NA
5) A plan has been developed for a "transitional stage" for the proposed change.	A	D	U	NA

HISTORICAL ORGANIZATION DEVELOPMENT

1) The end-user organizations affected by the proposed change have successfully implemented key changes in the past.	A	D	U	NA
2) External factors (govt, economy) have not influenced past organizational changes.	A	D	U	NA
3) Prior organizational changes resulted in personnel reassignment rather than terminations.	A	D	U	NA

COMMUNICATION CHANNELS

1) The "purpose" of the organizational change has been communicated to all levels of employees affected by the change.	A	D	U	NA
2) All employees affected (directly or indirectly) by the proposed change have been "notified" of the organizational change in a timely manner.	A	D	U	NA
3) Employees/Management understand how the proposed change will affect them directly or indirectly.	A	D	U	NA
4) Communication between management and operational levels occurs minimally on a bi-weekly basis.	A	D	U	NA

5) Communication plan has been developed to ensure information flows consistently through the transitional phase. A D U NA

REWARDS/RECOGNITION SYSTEM

1) The organization recognizes and rewards individual performance. A D U NA

2) The organization recognizes and rewards team performance. A D U NA

3) Employees perceive the performance/recognition process as an adequate measurement of their performance. A D U NA

4) An incentive program has been developed to assist with the proposed organizational change:
   - Middle mgt level A D U NA
   - Supervisory level A D U NA

RESOURCES

1) Appropriate resources are available to implement proposed change:
   - Technical A D U NA
   - Managerial A D U NA
   - Clerical A D U NA

2) Transitional manager has been assigned to manage implementation of the proposed change. A D U NA

3) Sufficient resources have been allocated to meet the training needs of the planned change. A D U NA

4) Resources required for the proposed change will be available in a timely fashion. A D U NA

EDUCATION

1) Education plan has been established to ensure appropriate knowledge/skills. A D U NA

2) A end-user training schedule has been developed to meet the needs of the proposed organization. A D U NA

3) Management will ensure that Education/Training plans are carried out.	A	D	U	NA
EXTERNAL FACTORS				
1) External influences (govt,economy, etc.) are unlikely to have a significant impact on the outcome of the proposed change.	A	D	U	NA
2) External risk factors have been identified and documented.	A	D	U	NA
3) If required, external resources are available to implement the proposed change.	A	D	U	NA

Appendix B

ASSESSMENT GUIDELINES
FOR
LEADERSHIP/MANAGEMENT COMMITMENT
#1

CONDITION: Lack of Commitment by End-user Management.

IMPLICATIONS: Having senior, middle, and supervisory level management approval allows for easier implementation of the proposed change and increases the success factor for the project.

GENERAL RECOMMENDATIONS:

1) Obtain senior, middle, and supervisory level commitment early in the project.
2) Determine whether the proposed change should be placed on hold until management can agree to a change strategy.
3) Assign an end-user and a MIS senior level project manager who will be held accountable for the project's success.
4) Determine whether passive resistance at any level of management is viewed as acceptable with the other members of the project team.

ASSESSMENT GUIDELINES
FOR
LEADERSHIP/MANAGEMENT COMMITMENT
#2

CONDITION: Disagreement on the objectives and scope of the proposed change between MIS and senior end-user management.

IMPLICATIONS: A clear definition of the scope and objectives must be stated to meet the expectations of MIS and the end-user areas.

GENERAL RECOMMENDATIONS:

1) Document the proposed change's scope and objectives.
2) Publish the objectives and scope document to all employees affected directly or indirectly by the proposed change.
3) Obtain signatures on the scope document from MIS and end-user management to ensure a consenus was reached.

ASSESSMENT GUIDELINES
FOR
LEADERSHIP/MANAGEMENT COMMITMENT
#3

CONDITION: NO end-user "Champions" have been identified.

IMPLICATIONS: Every project should have a project manager but more importantly, a leader. For employees to "buy into" accepting the proposed change, it is critical for them to see someone within the organization supporting this change.

GENERAL RECOMMENDATIONS:

1) Solicit a champion within the employees' peer group in addition to having senior level management support.
2) Choose a champion who will be viewed by peers as a sincere representative of their interests.

ASSESSMENT GUIDELINES
FOR
LEADERSHIP/MANAGEMENT COMMITMENT
#4

CONDITION: Opponents of the proposed change have not been identified.

IMPLICATIONS: Opponents may have early insight into a potential problem. Addressing this issue early in the project phase can be instrumental to the success of the project.

GENERAL RECOMMENDATIONS:

1) Meet with opposition to document their views and suggestions on how they would propose the new change to be implemented successfully.
2) Determine with senior level management if passive resistance is viewed as acceptable.

ASSESSMENT GUIDELINES
FOR
LEADERSHIP/MANAGEMENT COMMITMENT
#5

CONDITION: Lack of agreement on the pace of the proposed change.

IMPLICATIONS: The pace of implementing change is a key element to the success of a project. If a schedule is unrealistic in terms of underestimating/overestimating the effort, frustration will occur on both sides since expectations cannot be met. Productivity and turnover can be issues in either case.

GENERAL RECOMMENDATIONS:

1) Propose a schedule listing resources, time frame, and cost.
2) Agree to the critical path of the project with senior level management in MIS and the end-user areas.

ASSESSMENT GUIDELINES
FOR
LEADERSHIP/MANAGEMENT COMMITMENT
#6

CONDITION: Lack of management understanding at the executive, middle, or supervisory level on the potential impact the proposed change has among the people affected.

IMPLICATIONS: It is important to note, the element of surprise at any level of management or staff can affect the implementation schedule and the intended success of the proposed change.

GENERAL RECOMMENDATIONS:

1) Meet with the appropriate level(s) management to discuss the implications of the proposed change and develop a plan to implement this change.
2) Publish the objectives of the proposed change to all those affected, directly or indirectly, stating clearly how the proposed change will affect the organization as a whole and departmentally.

ASSESSMENT GUIDELINES
FOR
CURRENT ORGANIZATION CLIMATE
#1

CONDITION: Management does not view open communication as a success factor to the organization.

IMPLICATIONS: 50%-70% of a managers time is devoted to communication. Therefore, effective communication with individuals is critical to the management process.

GENERAL RECOMMENDATIONS:

1) Hold regular staff meetings with the project team.
2) Provide a written mechanism for employees to give their feedback. (Ex. Suggestion box or periodic work status reports)
3) Meet with employees on a one-on-one basis to solicit feedback.
4) Issue an open-door policy where employees can stop by their manager's office to discuss important issues.

ASSESSMENT GUIDELINES
FOR
CURRENT ORGANIZATIONAL CLIMATE
#2

CONDITION: The informal organization is not viewed as an effective means of communication.

IMPLICATIONS: Informal groups satisfy needs the formal organization does not provide. It is important to analyze whether the informal group is satisfying their social needs.

GENERAL RECOMMENDATIONS:

1) Hold informal meetings periodically.
2) Provide a written mechanism where employees can give their feedback to the process (ex. suggestion box or periodic work status reports).
3) Keep abreast of union demands.

ASSESSMENT GUIDELINES
FOR
CURRENT ORGANIZATIONAL CLIMATE
#3

CONDITION: Management does not view the formal organization as an effective communication channel.

IMPLICATIONS: Formal groups are an effective means to accomplish the organizations goals. Need to define roles, structures, and standards.

GENERAL RECOMMENDATIONS:

1) Review roles, job positions to see if they match expectations of management.
2) Communicate policies and standards to make sure that they are clearly understood at all levels.
3) Establish a written feedback mechanism where employees can voice their opinions on the planned change.

ASSESSMENT GUIDELINES
FOR
CURRENT ORGANIZATIONAL CLIMATE
#4

CONDITION: Senior management does not encourage middle or supervisory level to participate in decision-making relative to the proposed change.

IMPLICATIONS: Many companies have had impressive successes by inviting employees at all levels to participate in the decision-making process. Success is attributed to improving communication channels so all employees understand the ultimate goal.

GENERAL RECOMMENDATIONS:

1) Encourage management to allow team members to participate on the decisions that will affect them directly.

ASSESSMENT GUIDELINES
FOR
CURRENT ORGANIZATIONAL CLIMATE
#5

CONDITION: The plan outlining the transitional stage for the proposed change is not developed.

IMPLICATIONS: A transitional manager is needed to control the project performance peaks before it reaches the steady state. When the transitional periods are effectively managed, the project is readily accepted within the end-user areas.

GENERAL RECOMMENDATIONS:

1) Present a case to management explaining why it is important to have a transitional manager play a liaison role between MIS and the end-user areas.

ASSESSMENT GUIDELINES
FOR
HISTORICAL ORGANIZATION DEVELOPMENT
#1

CONDITION: Management views previous organizational changes as unsuccessful.

IMPLICATIONS: Having management support the propose change adds credibility and increases the chance for success.

GENERAL RECOMMENDATIONS:

1) Construct and review with management appropriate cost/benefit analyses and project schedules which support the proposed change and its benefit to the company, and secondly, review the past changes which were not successful and come to an understanding why the previous changes were ineffective.

ASSESSMENT GUIDELINES
FOR
HISTORICAL ORGANIZATION DEVELOPMENT
#2

CONDITION: External factors negatively influence past organizational changes.

IMPLICATIONS: Past experience with external sources, such as government, competitors or consultants is valuable knowledge to have before implementing the new changes. Interpreting these changes without past experience can cost a company time and money.

GENERAL RECOMMENDATIONS:

1) Seek employees/departments (tax, law) that have familiarity with using external sources.
2) If government regulations are involved, obtain assistance from the appropriate internal and external sources.

ASSESSMENT GUIDELINES
FOR
HISTORICAL ORGANIZATION DEVELOPMENT
#3

CONDITION: Prior organizational changes resulted in terminations or layoffs.

IMPLICATIONS; This is a sensitive issue and needs to be handled by trained human resource professionals. Productivity and morale may be impacted when the proposed change is announced.

GENERAL RECOMMENDATIONS:

1) Meet with subordinates to relay news of proposed change before the news hits the grapevine.
2) Meet with subordinates periodically to maintain an open communication flow.
3) Develop a mechanism where employees will be encouraged to provide their feedback on the proposed change.

ASSESSMENT GUIDELINES
FOR
COMMUNICATION CHANNELS
#1

CONDITION: All levels of employees have not been informed as to the "purpose" of the proposed change.

IMPLICATIONS: All levels of employees should know the goals and missions of the organization. This will defuse rumors and begin the education process associated with the proposed change.

GENERAL RECOMMENDATIONS:

1) Issue written document explaining how the planned change fits into the short-term and long-term goals of the company.

ASSESSMENT GUIDELINES
FOR
COMMUNICATION CHANNELS
#2

CONDITION: Employees have not been informed of the proposed change in a timely manner.

IMPLICATIONS: Informing employees affected directly or indirectly by the proposed organization change, sets the stage for a good working environment. Informing only selected groups of people may cause friction in the organization which may be extremely difficult to eliminate once it has been established.

GENERAL RECOMMENDATIONS:

1) Notify all employees via a written document stating the goals of the proposed change.
2) Analyze whether verbal communication between subordinates would be a more effective communication means prior to sending out formal statement explaining reasons for the proposed change.

ASSESSMENT GUIDELINES
FOR
COMMUNICATION CHANNELS
#3

CONDITION: Employees/Management do not understand how the proposed change will affect them directly or indirectly.

IMPLICATIONS: Project delays will occur if employees and/or management are confused about what impact the proposed change will have on them individually.

GENERAL RECOMMENDATIONS:

1) Meet with subordinates or your management to determine the affect the proposed change will have on you as an individual work group or department.

ASSESSMENT GUIDELINES
FOR
COMMUNICATION CHANNELS
#4

CONDITION: Effective communication is lacking between management and the operation levels.

IMPLICATIONS: Managers and their subordinates should meet on a regular basis. A breakdown in the communication process occurs usually when this time period exceeds two weeks.

GENERAL RECOMMENDATIONS:

1) Set up weekly/bi-weekly meeting to maintain open communications.

ASSESSMENT GUIDELINES
FOR
#5
COMMUNICATION CHANNELS

CONDITION: Information is not flowing consistently through the transitional phase.

IMPLICATIONS: Confusion may result when there is no one project manager to field questions and make decisions reqarding the planned change. The skill set to manage a transitional phase requires good interpersonal skills, positive outlook, and the ability to react constructively in crisis modes. These skills differ from managing a steady state project.

GENERAL RECOMMENDATIONS:

1) Develop and agree to a plan for the transitional phase between MIS and the end-user project manager. The plan should highlight the dollars, resources and equipment required for the project.

INCORRECT

PAGINATION

ASSESSMENT GUIDELINES
FOR
REWARDS/RECOGNITION SYSTEM
#2

CONDITION: The organization does not recognize team performance.

IMPLICATIONS: Only recognizing individuals can impede the progress of the change since the incentive to work as a team diminishes and may cause unwarranted competition within the project group.

GENERAL RECOMMENDATIONS:

1) Establish a formal process to recognize team achievements
   NOTE: Examples=newletters, bulletin boards, bonus plans, incentive programs (dinners,show tickets,etc..), salary increases.

ASSESSMENT GUIDELINES
FOR
REWARDS/RECOGNITION SYSTEM
#3

CONDITION: Employees disagree on the value of performance appraisal process.

IMPLICATIONS: Important for the employees to view the performance review process as effective so they can continue to be motivated and understand their role and responsibilities related to the planned change.

GENERAL RECOMMENDATIONS:

1) Ask for constructive criticism from employees on the review process. Share these views with management to determine whether the current process needs to be revised.

ASSESSMENT GUIDELINES
FOR
REWARDS/RECOGNITION SYSTEM
#4

CONDITION: Lack of effective incentive program at the middle or supervisory level to assist with the proposed change.

IMPLICATIONS: Incentive programs show management commitment to the change and provide a mechanism to market the new change.

GENERAL RECOMMENDATIONS:

1) Develop an incentive program so employees/management can see management's commitment to the proposed change.

ASSESSMENT GUIDELINES
FOR
RESOURCES
#1

CONDITION: Lack of resources to implement proposed change at the technical, managerial, or clerical levels.

IMPLICATIONS: Project will get delayed and there is a chance the enthusiasm for the propose change will diminish.

GENERAL RECOMMENDATIONS:

1) Match the list of resources required to the current skill set inhouse. Determine if training and inhouse resources would be suitable to implement the propose change.
2) Match the employees name with the job skills required and review the proposal with management.

ASSESSMENT GUIDELINES
FOR
RESOURCES
#2

CONDITION: No manager has been assigned to manage the transitional phase phase for the planned change.

IMPLICATIONS: A transitional manager is critical to the success of the project. Important to have the transitional manager different from the original project manager since the skills sets differ.

GENERAL RECOMMENDATIONS:

1) Have management agree to a transitional manager with the designated skill set.

ASSESSMENT GUIDELINES
FOR
RESOURCES
#3

CONDITION: Insufficient resources have been allocated to meet the training expectations for the proposed change.

IMPLICATIONS: Project may have to put on hold if the training does not resume within a certain time period.

GENERAL RECOMMENDATIONS:

1) Review backup schedules with the training personnel to avoid potential resource delays.

ASSESSMENT GUIDELINES
FOR
RESOURCES
#4

CONDITION: Resources are unavailable during the needed time frame.

IMPLICATIONS: Resources recommended must be available at the designated phases of the project. If timing is an issue, the project may be delayed by a factor of two or three.

GENERAL RECOMMENDATIONS:

1) Line up resources to match project time schedule. Provide a backup plan in case the original resources are unavailable.

ASSESSMENT GUIDELINES
FOR
EDUCATION
#1

CONDITION: Effective education plan has not been developed to assure the appropriate knowledge is taught in preparation for the planned change.

IMPLICATIONS: A well-developed education plan ensures skills requested outlined in plan. This highlights areas that may need to be clarified to ensure all courses are scheduled.

GENERAL RECOMMENDATIONS:

1) Develop an education plan to ensure appropriate courses are scheduled.
2) Meet with the education department and employees to inform and agree to an appropriate education plan.

ASSESSMENT GUIDELINES
FOR
EDUCATION
#2

CONDITION: Training schedule will not meet the demands of the proposed change.

IMPLICATIONS: The training schedule should not delay the agreed to project schedule or else the project may not meet the end-user expectations.

GENERAL RECOMMENDATIONS:

1) Communicate to senior management on any delays in the project schedule.
2) Review with the individual employees to ensure their needs are met with the training schedule.

ASSESSMENT GUIDELINES
FOR
EDUCATION
#3

CONDITION: Management places little emphasis on the need for education and training for the proposed change.

IMPLICATIONS: Organizational change cannot be effective without the proper training.

GENERAL RECOMMENDATIONS:

1) Meet with senior level management to obtain their commitment to the importance of the education process.

ASSESSMENT GUIDELINES
FOR
EXTERNAL FACTORS
#1

CONDITION: External influences have a significant impact on the outcome of the proposed change.

IMPLICATIONS: Lack of accurate information can lead to embarrassment and cost penalties to the company.

GENERAL RECOMMENDATIONS:

1) Review with the appropriate organizations (law,tax, treasury, government, accounting) the impact on the organizational change and any penalities imposed.

ASSESSMENT GUIDELINES
FOR
EXTERNAL FACTORS
#2

CONDITION: External risk factors have not been identified and/or documented.

IMPLICATIONS: Project risks need to be understood before the planned change can be effective.

GENERAL RECOMMENDATIONS:

1) Have the project team outline the risks associated with the proposed change.
2) Document and publish the risks associated with the proposed change so everyone affected directly or indirectly understand the risks from the inception of the project.

ASSESSMENT GUIDELINES
FOR
EXTERNAL FACTORS
#3

CONDITION: External resources expected to assist in the proposed change are unavailable.

IMPLICATIONS: External resources need to be available during the requested phase of the proposed change to have a positive impact on the schedule.

GENERAL RECOMMENDATIONS:

1) Develop a contingency plan if external resources are unavailable during the designated time.
2) Determine the flexibility of the schedule and whether internal sources can be substituted.

8.0 Vita

The author was born in Wilkes-Barre, Pennsylvania on August 13, 1957, the daughter of Thomas Arthur and Sarah Bernadette Flanagan. She graduated from Bishop O'Reilly High School in Kingston, Pennsylvania with honors in 1975. In 1979, she graduated cum laude from Bloomsburg State College, (currently Bloomsburg State University), receiving a bachelor of science degree in Business Administration/Information Processing. Since June 1979, the author has worked for Air Products and Chemicals, Inc. in Trexlertown, Pennsylvania and has held jobs with increasing responsibility in systems analysis and design within the Management Information Services Department.